

AN UNDESCRIBED CROTON FROM THE VIRGIN ISLANDS

Croton Fishlockii Britton, sp. nov.

A low, much-branched shrub, the young twigs sparingly long-pilose, with very short internodes. Leaves broadly elliptic to suborbicular, rather thin, 6–22 mm. long, 5–15 mm. wide, rounded or obtuse at both ends, pinnately few-veined, sparingly long-pilose and with rather copious black stellate hairs, the long-pilose petioles 2–8 mm. long; flowers few, in small terminal clusters, or solitary. Staminate flowers: sepals ovate to elliptic-ovate, 2.8–3 mm. long, 1.8–2 mm. broad, stellate-pubescent on the back; petals obovate to broadly obovate, 3 mm. long, 2–2.2 mm. broad, villous within; stamens 12, the filaments villous near the base.

Top of the mountain in Virgin Gorda, Virgin Islands, at about 425 meters altitude (*W. C. Fishlock, No. 311, May 9, 1919*).

A very interesting distinct species, related to *Croton lucidus* L. I take pleasure in dedicating it to Mr. Fishlock, who has been in charge of the Botanical Station at Roadtown, Tortola, for a series of years, and who has made extensive collections of the Virgin Island flora, adding greatly to our knowledge of the distribution of species of Tortola, Virgin Gorda and Anegada. *Croton lucidus* L., apparently its nearest relative, has not been found in the Virgin Islands.

REVIEWS

Hitchcock's Genera of Grasses of the United States*

At the present low ebb of systematic botany, due largely to the deplorable schism over the question of nomenclatorial rules, the appearance of a work of such scope from the pen of our leading agrostologist is of capital importance to every student of the grasses. Sufficient time has elapsed since the publication of Scribner's American Grasses in 1900† to make a new exposition of grass-genera extremely desirable. Many of the views set forth in the present volume were foreshadowed in the author's

* Hitchcock, A. S., The Genera of Grasses of the United States, with special reference to the economic species. U. S. Dept. of Agric. Bull. No. 772: Washington, Govt. Printing Office, March 20, 1920. Pp. 1–307; 174 figs., 20 plates. Price .40.

† U. S. Dept. Agr. Div. Agrost. Bull. 20.

Text-Book of Grasses (1914), but a fuller and more adequate treatment was urgently needed. Professor Hitchcock's sound and sane conservatism has not permitted him to depart too widely from the fundamental doctrines of modern agrostology yet the present work is by no means a mere compilation of existing views, but marks in several respects a distinct advance over our previous knowledge.

The attention of the reviewer naturally was first drawn to that stone of stumbling and rock of offense, the correct position of the tribe Oryzeae. The Gordian knot has been neither untied nor cut. After following Hackel and Scribner by placing the tribe in the sub-family Panicatae in the Text-Book of Grasses, Professor Hitchcock has now returned to the view taken in his revision of the Gramineae for the Seventh Edition of Gray's Manual (1908), and included the tribe again among the Poatae. Evidently therefore the laterally-compressed spikelets now appear to him a character of greater significance than the articulation of the rachis *below* the glumes. As a matter of fact, the tribe presents an *impasse* that can never be satisfactorily evaded as long as the two sub-families are delimited as at present. Undoubtedly there will always be good grounds for maintaining these two series for the majority of the genera; but there is a progressive obliteration of sharply-opposed characters as we descend toward the median line, until we reach a debatable ground in which the two sets seem to be inextricably blended. Perhaps the most noteworthy advance in taxonomy afforded by the present volume is in the new sequence of tribes. The arrangement that has been uniformly followed hitherto has been strikingly illogical, in that it involved a progression from the most highly-developed to the most primitive forms. The bamboos, as showing the least differentiation in floral structure, should evidently begin the sequence, and the allies of *Tripsacum* should close it as the most complex. We accordingly find in the present work that the Poatae stand first, with the tribes in the following order: Bamboseae, Festuceae, Hordeae, Aveneae, Agrostideae, Nazieae, Chlorideae, Phalarideae, Oryzeae and Zizanieae (the latter tribe cut off from Oryzeae on the basis of the unisexual spikelets, leaving only

Oryza and *Homalocenchrus* to represent the original tribe), and the Panicatae are in second place, in the order: Melinideae, Paniceae, Andropogoneae and Tripsaceae (the latter name very properly taken up instead of Maydeae, since the genus *Mays* is no longer maintained). The author is careful to point out, however, that no arrangement in a purely lineal sequence can represent the tribal relationships, and repeats the view set forth in his Text-Book (p. 157), that the phylogenetic development has not been along a *single* line. At least three dimensions would seem necessary to a satisfactory schematic representation of this relationship! Here is foreshadowed the great future problem to be solved by grass-systematists. The placing of Nazieae among the Poatae seems to be justified by the articulation of the spikelet *above* the glumes; and the near relation of *Hilaria* and *Aegopogon* to certain of the Chlorideae suggests to the author a disposition by which these two genera will ultimately be cut off from *Nazia* and its allies. Whether the distinction between Zizanieae and Oryzeae can be maintained for the genera not represented in the United States which are usually referred to Oryzeae, notably the anomalous *Streptochaeta* and *Rcynaudia*, the author does not attempt to decide. Another noteworthy innovation is found in the placing of *Munroa* among the Chlorideae, where it finds a place next to *Cathestecum*, previously transferred in the same way by Griffiths* from the Festuceae. The genus *Triodia* is restored, with the comment that it does not seem practicable to segregate any of the species as distinct genera. The name *Aira* is taken up for what has been known as *Deschampsia*, the author holding that the Linnaean type should be selected from among the first four rather than the last two species (*A. praecox* and *A. caryophyllea* being species from southern Europe, and not included by Linnaeus either in the Flora Lapponica or Flora Suecica). The little annuals heretofore called "Aira" are placed in Adanson's genus *Aspris*.† *Melica* is not subdivided, although the presence of the club-shaped rudiment is maintained as a distinguishing character—a procedure which makes the reference of

* Contr. U. S. Nat. Herb. 14: 358. 1912.

† Adans. Fam. Pl. 2: 496, 522. 1763.

any species of the section *Bromelica* to the genus a matter of extreme difficulty for the beginner.

The author adopts Piper's* view that what has been known as *Agrostis alba* L. should be called *A. palustris* Huds., the original name having been founded on what was almost certainly a species of *Poa*; and *A. capillaris* L. is in like manner taken up for what has usually been called *A. alba* var. *vulgaris* Thurb., the "Rhode Island bent." *Apera* is regarded as insufficiently distinct from *Agrostis* and replaced in that genus. *Sphenopholis* and *Koeleria* retain the position among the Aveneae to which Professor Hitchcock has always regarded them as entitled.

The synonymy is complete for all generic names based on American species; and all such names, whether valid or in synonymy, are placed on a type-basis. A careful study has been made of each genus with a view to ascertaining which of the species the author had chiefly in mind, so that the arbitrary method of selecting the first-mentioned valid species as the type is avoided. A brief of the publication of each generic name is given, and in each case the reason for selecting the species taken as the type is stated. The law of priority is strictly applied, and the "nomina conservanda" of the International Rules are in no case maintained. Each genus is technically described, and its scope and distribution indicated. As was inevitable in a publication of the Department of Agriculture, all the economic species under each genus are mentioned, so that the user of the book should be able to refer any of these species to its proper genus. The author's interest in his subject, however, often leads him to extend his treatment to include species of no economic significance.

The illustrations with two exceptions (*Euchlaena* and *Coix*) are all new, and specially prepared for this work, the habit-drawings by Mary Wright Gill, and the details of the spikelet by Agnes Chase. The figure of *Hydrochloa carolinensis* on p. 213 is an admirable example of the fidelity and accuracy of Mrs. Gill's work. The high cost of paper is doubtless responsible for placing a photographic plate on *each* side of the inserted leaves.

* U. S. Dept. Agric. Bull. 692. 1918.

One new species (*Epicampes subpatens*, from New Mexico) is published, and fourteen new combinations are formally made.

The proofreading has been done with the most scrupulous care, in pleasing contrast to the carelessness displayed in some of our recently-issued manuals. The reviewer is inclined to regard Beauvois's correction* of Rafinesque's "Diarina" † to *Diarrhena* as valid under any set of rules; but Rafinesque's lordly indifference to all matters etymological makes it inadvisable to be dogmatic in regard to the correct spelling. It is doubtless an excess of purism to inquire why *Lepturus* is treated as feminine and *Pholiurus* as masculine (pp. 105, 106). *Chaetochloa palmifolium* (p. 243) is the only other error in agreement observed. The word "palea" is used throughout instead of the Anglicized "pallet," thus conforming to "lemma"; but strict consistency would also require the use of "gluma."

Cynosurus cristatus is not "the only species in the United States" (p. 68), as *C. echinatus* L. is becoming well established in Western Oregon. *Colcanthus* is regarded as "introduced" (p. 133), although it is hard to see on what ground, since it is nowhere an associate of cultivated plants, and has a sufficiently wide distribution in Eurasia to justify the presumption that it is a cosmopolite. *Torresia macrophylla* is not merely "Californian," (p. 201) but extends northward at least to the Columbia River. *Homalocenchrus oryzoides* is not limited to the "eastern United States" (p. 206) but is of frequent occurrence in the Wilamette Valley.

Those who have followed in successive publications the steady evolution of Professor Hitchcock's views on systematic agrostology, will hope that this admirable contribution may in future find its logical culmination in an equally sound and able treatment of all the grass-species represented in the United States, which will be for the entire family what Hackell's exposition of the Andropogoneae has been for that tribe, and will for all time confirm the author's right to rank as a worthy continuator of the work of Beauvois, Trinius and Hackel. JAMES C. NELSON

* Ess. Agrost. 142. 1812.

† Med. Repos. 5: 352. 1808.